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written by Sierra

DIMMI 2016-10-(

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VA 111 Sbky2



R-21/4K-55 missile at the USSR Armed Forces Museum in Moscow (<https://missilery.info/>)

Author: [DIMMI](#)

Created: 06.10.2011 18:03:57

Comments: [2](#)

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P-500 Basalt - SS-N-12 SANDBOX

DATA AS OF 2022 (in progress)

P-500 Bazalt complex, 4K77 missile - SS-N-12 SANDBOX

★★★

Anti-ship cruise missile. The development of the missile was started by the Resolution of the Council of Ministers of the USSR dated February 28, 1963. The development of the missile was carried out in OKB-52 (now - "NPO Mashinostroyeniya") by a group of leading designers consisting of: Daniil Gerchik, Nikolai Klyuev, Anatoly Arzhanov. The Bazalt missile was intended to replace the P-6 missiles, was initially created by OKB-52 under the code P-6M ([source](#)) and had approximately the same weight and size characteristics. In terms of aerodynamics and design-layout scheme, the missiles were also similar, but the Bazalt missile had a higher flight speed, increased firing range and a more powerful high-explosive cumulative warhead. The flight profile is "high altitude - low altitude" with an increase in the duration of the final stage and a decrease in the flight altitude during it.

The main differences from the P-6 family of missiles are:

- long range and high supersonic flight speed, allowing the carrier to remain outside the defense zone of the attacked ships;
- rational trajectory shape, allowing to bypass the air defense zone of the attacked ship in the final section;
- use of an onboard digital computer in the control system with the solution of flight control problems and hitting the target in a complex jamming environment;
- use, for the first time on cruise missiles, of an onboard active jamming station, which ensures the missile's invulnerability to anti-aircraft missiles in the air

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defense zone of the attacked target.

The preliminary design of the missile was completed in December 1963. The first stage of flight design tests was held from October 1969 to October 1970 at the Naval proving ground in Nenoksa. Six missile launches were conducted without radio equipment from a ground test stand. The second stage of flight tests was conducted with missiles in standard configuration (14 launches). As a result of the tests, experimental data were obtained on the cruise missile's flight characteristics, the operability of its systems and units, the launcher container and individual units of ground equipment.

In 1975, the Bazalt missile system was adopted for service on Project 675 SSGNs, which were previously armed with the P-6 system .



Missile of the P-500 complex (photo from the Skeptic-2 archive, <http://forums.airbase.ru>)



Missile of the P-500 "Basalt" complex (<http://www.npomash.ru>).

Author: [DIMMI](#)

Created: 28,08,2010 04:36:05

Comments: 2

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pr.636 - Improved KILO

DATA FOR 2024 (standard update)

Project 636 / Project 636M / Project 06361 - Improved KILO

Project 06363 - Improved KILO-II

★★★★



Large diesel-electric submarine (type "B"). The submarine project was developed for delivery to China on the basis of project [877M - Improved KILO](#) . The design was carried out by the Rubin Central Design Bureau, the chief designer of the project is Yu.N.Kornilitsyn, as of the end of 2013 (or earlier) - Igor Molchanov. Compared to the basic modifications of [project 877](#) , the boats of project 636 are distinguished by the installation of a new generation of onboard equipment and the widespread use of sound-absorbing technologies. The lead boat of Project 636 - B-466 (the future "Yuan Zhend 66 Hao" of the Chinese Navy) was laid down at the Admiralty Shipyards under the factory number 01616 on June 16, 1996. The boat was launched on April 26, 1997 and delivered to the Navy on August 26, 1997. The transfer of the boat to the Chinese Navy took place on November 12, 1997. In those years, the production cycle of the boats of the project was just over a year. In the first half of the 2000s, the production cycle increased to 1.5-2 years and by the beginning of the 2010s it was already from 2.5 to 4 years.



Submarine pr.06363 B-261 "Novorossiysk" in the South Bay of Sevastopol, 10/06/2018 (https://t.me/kchf_ru)

Author: [DIMMI](#)

Created: 24.02.2013 21:45:09

Comments: [18](#)

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Controlled combat unit of the Makeyev State Research Center of the Russian Aerospace Industry.

DATA AS OF 2024 (standard replenishment)

Guided warhead of the Makeyev State Research Center Oval Design Bureau

★★★

Guided warhead (UGB) for submarine-launched ballistic missiles (SLBM). The UBB was developed by OKB-385 (now the Makeyev State Research Center) in the late 1970s – early 1980s. Presumably, a light or medium-class UBB was created for the R-29RM and R-39 SLBMs, including for use against sea targets.

The first flight tests of the guided warhead developed by OKB-385 were conducted within the framework of the Oval R&D project by launching the K65M-R launch vehicle from the Kapustin Yar test site on January 18, 1984. Flight tests of the guided warhead of the Makeyev State Research Center were also conducted by launching the K65M-R launch vehicle from the Kapustin Yar test site on January 11, 1990 (*source - Stages...*). The following tasks were solved during the tests on this topic: checking and confirming the operability of the UBB body; checking and confirming the operability of the propulsion system; confirming the correct interaction of the on-board equipment of the propulsion system control system; determining, confirming and refining the aerodynamic characteristics of the UBB, gas-dynamic characteristics, and the effectiveness of the controls; confirming and refining the modes of the heat-protective coating and the UBB body; restoring the kinematic parameters of the UBB motion and comparing them with the calculated values; confirming the operability of the on-board algorithms for generating the programmed trajectory; assessment of the limits of the radio navigation system's operability with and without the use of the plasma suppression device; obtaining experimental data on plasma parameters depending on the angular motion of the UBB, the operation of the propulsion system and the plasma suppression device; assessment of the effectiveness of the plasma suppression device.

As of 2014, the controlled warhead of the Makeyev State Research Center is not in service with the strategic nuclear forces of Russia.



An image of a controlled combat unit developed by the Makeyev State Research Center shown at the exhibition "Innovation Day of the Ministry of Defense of the Russian Federation" in Alabino, August 4, 2014.

Author: [DIMMI](#)

Created: 01.04.2017 19:55:05

Comments: [4](#)[READ THE FULL ARTICLE »](#)

pr.685 - MIKE

DATA FOR 2024 (in progress)**pr.685 "Plavnik" - MIKE****K-278 "Komsomolets"**

★★★



Experimental nuclear submarine with great diving depth. The order for the design of a combat nuclear deep-sea submarine on the theme of the R&D project "Granit" was received by the Rubin Design Bureau (TsKB-18) in early 1966. In August 1966, the technical specifications for the design of the submarine were issued in order to study the conditions of its operation. It was supposed to use the experience of creating and operating a deep-sea submarine with a titanium hull to create a serial project of deep-sea submarines. Chief designer - N.A. Klimov (since 1977 Yu.K. Kormilitsyn). The technical project of the submarine was approved in 1974.

The submarine K-278 was included in the lists of ships of the Navy as a cruising submarine on 16.03.1976. The official keel laying of the submarine K-278 under the factory number 510 took place on 22.04.1978 in workshop #42 of the Sevmash Production Association (Severodvinsk), the person in charge of the submarine delivery was V.M. Chuvakin, the delivery mechanic was E.P. Leonov. The submarine was launched from the workshop on 30.05.1983. The submarine was launched on 03.06.1983. From July to August 1983, the submarine completed the mooring trials program. After sea trials, the submarine was accepted by the Navy on 28.12.1983. In October 1988, the submarine was named "Komsomolets". The submarine was actively engaged in combat duties, including being used for combat protection of SSBNs of the Fleet's strategic forces.

The submarine was destroyed by fire in the Norwegian Sea on April 7, 1989. It is located in the Norwegian Sea at a depth of 1,670 m.



PLA K-278 "Kosmolets" pr.685 - MIKE, 1986 (photo - DoD US)

Author: [DIMMI](#)

Created: 06.07.2011 17:00:13

Comments: [21](#)[READ THE FULL ARTICLE »](#)

D-5 / D-5U, R-27 / R-27U - SS-N-6 SERB

DATA AS OF 2024 (in progress)**D-5 complex, R-27 / RSM-25 / 4K-10 missile - SS-N-6 mod.1 SERB****D-5U complex, R-27U / RSM-25M / 3M-20 missile - SS-N-6 mod.2, mod.3 SERB****D-5M complex, R-27M / 4K-10M missile - SS-N-6 mod.1 SERB (?)**

★★★

Submarine-launched ballistic missile (SLBM). Developed by SKB-385 / V.P. Makeyev State Research Center (Miass). The proposal to develop the D-5 complex with two small-sized liquid-propellant missiles 4K-10 and 4K-18 for the SSBNs of Project 667A and Project 705B was put forward by SKB-385 in April-May 1961. The proposal was confirmed at a meeting of chief designers in December 1961. On April 24, 1962, Resolution No. 386-179 of the USSR Council of Ministers was adopted on the experimental design development of the D-5 complex with a 4K-10 missile with a single-warhead equipment and [the D-5K complex with a 4K-18 ballistic anti-ship missile. SKB-385 \(history - Designer \)](#) was appointed the lead developer, the leading designer of the D-5 complex with the 4K-10 missile is Yu.M. Ivanov. It was planned to arm the prospective Project 667A SSBNs with small-sized submarine-launched SLBMs, the development of which was carried out as a response to the deployment of the George Washington SSBN program in the United States.

Several new approaches and technical solutions were implemented in the development of the small-sized R-27 missile:

1. A small-sized and high-strength, all-welded rocket body was developed with a waffle -type shell, an engine located inside the tank, and multifunctional bottoms that replaced the traditional intertank compartment, engine frame, and separate instrument compartment.
2. The development of the missile was carried out simultaneously with the development of other components of the missile launch system, which ensured a multiple reduction in the weight load on the submarine, mainly due to the elastomeric shock absorption of the missile with the placement of jettisonable rubber-metal shock absorbers on the missile.
3. Centralization and almost complete automation of the management of the operation and combat use of the increased ammunition load of missiles on SSBNs has been implemented.
4. A rocket with factory fueling of the rocket with ampulization of tanks by welding of filling and drainage valves was created.

The following cooperation of enterprises was formed during the development of the complex and the rocket:

- SKB-385 / KBM (Miass) - the lead one for the complex and the rocket;
- OKB-2 / KBKhM (chief designer A.M. Isaev) - the cruise liquid-propellant rocket engine;

- NII-592 / NIIA (chief designer N.A. Semikhatov) - the rocket control system, the shipboard fire control system complex;
- NII-1011 / VNIITF - development of the thermonuclear munition GC.

In February 1963, the project was adjusted - the diameter of the body and the length of the missile were increased. A new type of launcher for the missile was being developed. In September 1965, drop tests of missile mock-ups began from a submersible test stand in Balaklava on the Black Sea. In 1966, launches began from a test stand at the Kapustin Yar test site (see below). In 1967, drop tests were conducted from an experimental submarine of Project 613D5, and then, from September 6, 1967, flight tests were conducted from the lead SSBN of Project 667A (see below).



SLBM with MIRV 3M-20 / R-27U complex D-5U (<https://missilery.info/>)

Author: [DIMMI](#)

Created: 05.10.2011 17:52:53

Comments: [69](#)

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D-9RM / R-29RM / 3M-37 - SS-N-23 SKIFF

DATA AS OF 2024 (standard replenishment)

D-9RM complex, R-29RM / 3M-37 / RSM-54 - SS-N-23 SKIFF missile

D-9RMU complex, R-29RMU / 3M-37U missile

D-9RMU1 complex, R-29RMU1 / 3M-37U1 missile "Station"

R-9RMU2 complex, R-29RMU2 / 3M-37U2 missile "Sineva" R-9RMU2.1

complex, R-29RMU2.1 missile / "Liner" R-29RMU (separate article)

★★★★

Intercontinental-range submarine-launched ballistic missile (SLBM). The missile system was developed by SKB-385 / KBM / Makeyev State Research Center (Miass). General Designer - V.P. Makeev. Lead Designer of the complex - Yu.A. Kaverin (since 2008 - B.A. Smirnov, source: "Designer" No. 17 / 2008). Work on the creation of a new missile complex was defined in the mid-1970s by the Resolution of the USSR Council of Ministers on the qualitative improvement of submarine missiles, increasing accuracy and creating a small-sized warhead, as well as the Resolution that ordered the construction of an additional 8 Project 667BDR SSBNs after 1980 due to the delay in the deployment of the R-31 SLBM. In support of these Resolutions, a joint decision of the Ministries of General Machine Building, Shipbuilding Industry, Medium Machine Building, Defense Industry and the USSR Navy ordered in October 1977 to submit a preliminary design for the new D-25 missile complex for the modernized and additional Project 667BDR SSBNs. In terms of combat capabilities and effectiveness, the new system was not to be inferior to the Trident-II missile system. In November 1977, KBM, together with the Naval Armament Institute, proposed a preliminary design for the D-25 system for consideration by the Council of Chief Designers, and in December 1977, the preliminary design for the D-25 system was successfully defended at the scientific and technical councils of the Ministry of General Machine Building and the USSR Navy.

The opponent of the new missile system with a liquid-propellant SLBM was the USSR Minister of Defense D.F. Ustinov - he insisted on curtailing work on liquid missiles and switching to solid-propellant missiles. As a result, with the support of the Commander-in-Chief of the Navy S.G. Gorshkov and the Minister of General Machine Building S.A. Afanasyev, a decision was made to submit the new D-25 missile system as a modernization of the old D-9R system.

On January 9, 1979, by the Resolution of the Council of Ministers of the USSR, R&D was officially launched to create the D-9RM complex with the 3M-37 missile for the Project 667BDR SSBN. The complex provided increased capabilities by increasing the number and power of warheads, increasing the range and accuracy of fire, and expanding the zone of dispensing warheads of arbitrary shape. The draft design of the D-9RM complex was developed in 1979. The design documentation was released in 1980. Also in 1980, ground testing of the complex and missile units was carried out. A decision was made to replace the new Project 667BDR SSBNs planned for construction with the more advanced Project 667BDRM SSBNs.

During the development of the complex, the following cooperation of enterprises was formed:

- Makeyev State Research Center - lead design bureau for the complex and the missile
- Rubin Central Design Bureau for Marine Engineering
- lead design bureau for SSBN carriers - NPO Avtomatiki - missile control system
- Chemical Automation Design Bureau - 1st stage liquid-propellant rocket engine - Chemical Engineering Design Bureau - 2nd and 3rd stage liquid-propellant rocket engines, as well as the warhead dispersal stage
- All-Russian Research Institute of Instrument Engineering (VNIITF) - MIRV warheads with charges, including a new generation small-sized high-speed BB.

SLBM R-29RMU2 "Sineva" on a transport trolley (<https://makeyev.ru/>)Author: [DIMMI](#)

Created: 06.10.2011 12:52:32

Comments: [300](#)[READ THE FULL ARTICLE >](#)

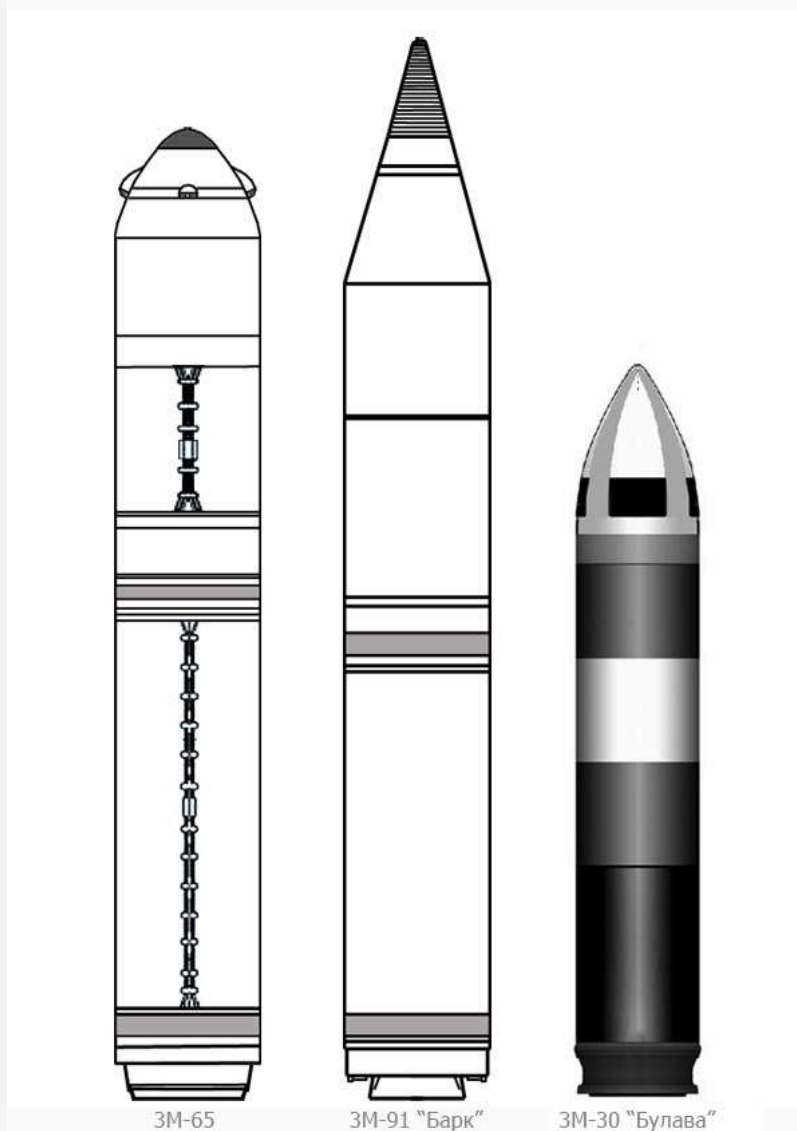
R-39UTTH/3M-91 Bark - SS-NX-28

DATA AS OF 2018 (standard replenishment)**D-19UTTH "Bark" complex, R-39UTTH / 3M-91 / RSM-52V / RSM-52-2 missile - SS-NX-28**

★★★★

Submarine-launched ballistic missile (SLBM) of intercontinental range. Developed by the Academician V.P. Makeyev State Research Center (formerly SKB-385, Miass) on the basis of and as a replacement for the D-19 complex with the R-39 - SS-N-20 STURGEON SLBM on the Project 941 SSBN - TYPHOON. Chief Designer - V.D. Kalabukhov. The development of a deep modernization option for the R-39 SLBM began in the first half of the 1980s. As of 1980, the design documentation was already being developed. By a resolution of the Council of Ministers of the USSR adopted in November 1985, it was ordered to begin experimental design development of the D-19UTTH complex with the aim of surpassing the characteristics of the Trident-2 SLBM. On March 11, 1986, a Resolution of the Council of Ministers of the USSR was adopted on the development of the D-19UTTH "Bark" complex with the R-39UTTH missile. In August 1986, a Resolution was adopted on the R&D of the D-19UTTH with the placement of the complex on the modernized SSBNs of [Project 941U](#).

The preliminary design of the D-19UTTH complex was prepared in March 1987. Between 1986 and 1992, work was successfully carried out to test the strength of the missile units. After 1987, tests of units and assemblies were conducted on the topic of the R&D "Bark" on the vacuum-dynamic stand of SKB-385. The first version of the rocket design envisaged the use of OPAL-type octogen fuel in the 1st stage, and the higher-energy TTF-56/3 fuel produced by the Pavlograd Chemical Plant (now Ukraine) in the 2nd and 3rd stages.

<http://militaryrussia.ru> © 02.01.2017


Comparison of the expected flight types of the 3M-65 missiles of the D-19 Typhoon complex, 3M-91 Bark and 3M-30 Bulava (02.01.2018, <http://militaryrussia.ru>).

Author: [DIMMI](#)

Created: 16.01.2011 01:40:13

Comments: [158](#)[READ THE FULL ARTICLE >](#)

pr.949A Antey - OSCAR-II

DATA FOR 2024 (standard update)

pr.949A "Antey" - OSCAR-II

K-148 "Krasnodar"	K-442 "Chelyabinsk"	K-150 "Tomsk"
K-173 "Krasnoyarsk"	K-456 "Tver"	K-139 "Belgorod"
K-132 "Irkutsk"	K-266 "Orel"	K-135 "Volgograd"
K-119 "Voronezh"	K-186 "Omsk"	K-160 "Barnaul"
K-410 "Smolensk"	K-141 "Kursk"	

Project 949U "Atlant" - OSCAR-II+

Project 949AM (I)

Project 949AM (II)

★★★



Nuclear submarine with anti-ship cruise missiles (SSGN). The project was developed by the Rubin Design Bureau under the supervision of Chief Designer P.P. Pustyntsev, Chief Designer for the Granit missile system - V.N. Chelomey. In August 1977, after Pustyntsev's death, I.L. Baranov became Chief Designer. Deputy Chief Designer - O.A. Gladkov (1983). Project 949A was a development of Project 949 with an additional compartment of the pressure hull and an updated layout. The initial plans provided for the construction of a large series of 20 Project 949 SSGNs - taking into account the two built Project 949 SSGNs, it is likely that a series of 18 Project 949 SSGNs was built.

On December 30, 1980, the lead SSGN of Project 949 K-525 was accepted into the USSR Navy, and the Granit missile system was accepted into service with the USSR Navy by the Resolution of the USSR Council of Ministers dated March 12, 1983. The lead SSGN of the new Project 949A - K-148 - was laid down in workshop No. 55 of PO Sevmash on July 22, 1982. The boat was taken out of the workshop and launched on March 3, 1985, and entered service with the Fleet on September 30, 1986.

The boats of the project have the unofficial name "Baton" in the Fleet - for the shape of the hull and impressive size.

SSGN pr.949A OSCAR-II (<http://forums.airbase.ru>).Author: [DIMMI](#)

Created: 24.11.2011 12:51:20

Comments: [32](#)[READ THE FULL ARTICLE >](#)

pr.945 / 945A - SIERRA-I / SIERRA-II

DATA FOR 2024 (standard update)**pr.945 "Barracuda" - SIERRA-I****Project 945A "Condor" - SIERRA-II****pr.945AB "Mars" - SIERRA-III**

★★★



Multipurpose nuclear submarine / cruiser submarine. The development was carried out by TsKB-112 "Lazurit", the chief designer is I. I. Kvasha. Research work on the creation of a 3rd generation nuclear submarine began in 1971. The tactical and technical assignment for the SSN was issued to the USSR Navy in March 1972. The Navy was tasked with creating a SSN of a size and displacement that would allow the construction of submarines at domestic plants in the country. The main purpose of the new SSNs, codenamed "Barracuda", was to track missile submarines and aircraft carrier strike groups of a potential enemy, as well as the guaranteed destruction of these targets at the beginning of hostilities.

The project's special feature was the use of titanium alloy with a yield strength of 70-72 kgf/mm in the manufacture of a strong hull, which ensures an increase in the maximum diving depth by 1.5 times compared to the second-generation submarines. Titanium allowed to reduce the hull weight by 25-30%, and this, in turn, allowed to carry out construction in Gorky with subsequent transportation of the submarines by inland waterways. Indirectly, the ship's magnetic field was reduced, but the cost increased and the number of potential submarine manufacturers was reduced - the technology for constructing titanium hulls was not mastered in Komsomolsk-on-Amur.

The submarines were built at the A.A. Zhdanov Krasnoye Sormovo Plant in Gorky (since 1992 - Nizhny Novgorod, Krasnoye Sormovo Plant). The lead submarine of the Project 945 K-239 was laid down on 20.07.1979, launched on 29.07.1983 and accepted by the Fleet on 29.09.1984. After launching, the submarines traveled via inland waterways to Severodvinsk, where they were completed. Then another submarine of the Project 945 was built, and then two submarines of the improved Project 945A. Then, in 1989, two submarines of the Project 945AB were laid down, but their construction was not completed - in 1994, the first submarine was dismantled, and in the same years - the second.



PLA B-336 "Pskov" pr.945A, Ara-Guba, summer 2004. The starboard side with traces of soot after a fire during repairs in the floating dock PD-50 SRZ-82 (<http://forums.airbase.ru>)

Author: [DIMMI](#)

Created: 11/17/2012 00:04:30

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pr.22350 - ADMIRAL GORSHKOV

DATA FOR 2024 (standard update)

pr.22350 - ADMIRAL GORSHKOV

"Admiral of the Fleet of the Soviet Union Gorshkov"

"Admiral of the Fleet Kasatonov"

"Admiral Golovko"

"Admiral of the Fleet of the Soviet Union Isakov"

"Admiral Amelko"

"Admiral Chichagov"

"Admiral Yumashev"

"Admiral Spiridonov"

★★★

Patrol ship (FS) of the far sea zone (before 2008) / frigate. The project was developed by the Severnoye Design Bureau and approved by the Russian Navy Command in June 2003 (date of approval of the preliminary design). The tender for the construction of the FS series was announced by the Navy on February 28, 2005. The shipbuilding enterprises Severnaya Verf, Pribaltiysky Zavod Yantar and PO Sevmash took part in the tender. The Baltiysky Zavod also submitted an application to participate in the tender, but on April 11, 2005, the IST Group, which owns the Baltiysky Zavod, and the United Industrial Company, which controls the Severnaya Verf, signed an Agreement on the Joint Implementation of Projects in the Sphere of Military Shipbuilding, according to which all defense orders were concentrated at the Severnaya Verf. Initially, it was planned to build a series of 20 ships over 15-20 years, but by the end of 2010, the media were citing a figure of 10-12 Project 22350 ships. As part of the State Arms Purchase Program until 2020, on 17 March 2011, Severnaya Verf and the Russian Ministry of Defense signed a contract for the construction of 4 ships of the project (in addition to the two already under construction). In addition, Severnaya Verf Shipyard was recognized as the sole supplier of Project 22350 frigates for the Russian Navy.

The contract for the construction of the lead ship of the project was signed with the Severnaya Verf Shipyard on October 21, 2005. The ship "Admiral of the Fleet of the Soviet Union Gorshkov" (factory No. 921) was laid down at the Severnaya Verf Shipyard on February 1, 2006, and launched on October 29, 2010. The ship was planned to be delivered to the Russian Navy in 2011 (plans for early 2010), but already in 2011, November 2012 was named as the probable date for the transfer of the ship to the Navy. Later, the plans changed several more times. According to September media reports, the lead ship of the project "Admiral of the Fleet of the Soviet Union Gorshkov" is expected to begin sea trials by the end of November 2012, which seems doubtful based on the actual condition of the ship. Also, this media report was refuted by a representative of USC in early November 2012, stating that mooring trials would begin on the ship in November 2012, and the first sea voyage was planned for 2013. Later, on November 19, 2012, the general director of the Severnaya Verf shipyard, Alexander Ushakov, told the media that "this year we intend to complete the tightening of cable routes, the crew's move-in and the start of mooring trials are scheduled for March 2013, so that we can begin factory sea trials in the fourth quarter of 2013." As a result, mooring trials began in the summer of 2013, and sea trials of the lead frigate began in 2014. The ship's acceptance by the Fleet was expected in 2014, later in December 2015, later in December 2016. And as of the beginning of 2017, it is expected before the end of 2017. The main reasons for the delays are the unreadiness of the weapons systems (in particular, the Redut SAM system).

The transfer of the lead frigate to the Fleet as of March 2017 is expected in 2018.

The first serial ship of the project "Admiral of the Fleet Kasatonov" was laid down there on November 26, 2009, and the launch of the ship is planned for 2012.



The frigate "Admiral of the Fleet of the Soviet Union Gorshkov" project 22350 during trials in the Northern Fleet, autumn 2015 ([source](#)).

Author: [DIMMI](#)

Created: 01.12.2011 17:09:15

Comments: [41](#)

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pr.677 - LADA

DATA FOR 2024 (standard update)

pr.677 / 06770 "Lada" - LADA

B-585 "St. Petersburg"

pr.677D

B-586 "Kronstadt"

B-587 "Velikiye Luki" ("Sevastopol")

B- "Vologda"

B- "Yaroslavl"

pr.677E "Amur-1650" "Amur-1650"



Large diesel-electric submarine ("B"). Developed by the Rubin Central Design Bureau of Marine Engineering, chief designer - Yu.N.Kormilitsyn. R & D began in 1987 and initially it was planned to build a large series of submarines at the Leningrad Admiralty Association (Leningrad), Sevmash (Severodvinsk), Krasnoye Sormovo (Nizhny Novgorod) and Leninskogo Komsomol (Komsomolsk-on-Amur) plants.

The technical design of the submarine project 677 was approved in 1993, but was sent for reworking. The second version of the technical design was approved in 1997. During the creation of the submarine, 180 R & D works were completed. The development of the sonar system was initially assigned to the Okeanpribor Research Institute, but the sonar system design they proposed could not be placed on the Project 677 submarine due to its weight and size characteristics. The General Director of the Rubin Central Design Bureau of Marine Engineering I.D. Spassky obtained a decision from the Ministry of Shipbuilding Industry to transfer the development of the sonar system to the Volna Electronic PO (Moscow). In the summer of 2005, the Federal State Unitary Enterprise NPO Elektropribor (St. Petersburg, contract dated April 2006) joined the development of the sonar system as the main contractor.

The lead boats of the series - Project 677 "Lada" - B-585 (sometimes called B-100 and S-100, factory No. 01570) and the lead boat of Project 677E "Amur" ("Amur-1650") were laid down at the Admiralty Shipyards FSUE (St. Petersburg) on December 26, 1997. In 1997, submarine B-585 received the name "St. Petersburg". During 1998-2001 (as of April 1, 2002), Admiralty Shipyards spent 335.1 million rubles on the construction of the lead submarine of Project 677, including 263.1 million rubles from the federal budget (including 175.5 million rubles in 2001). In the first quarter of 2002, federal funding for the construction of the order was not provided ([source](#)).

The lead boat was launched on October 28, 2004. The delivery of the submarine to the Navy was planned for 2006 (it did not take place on time). From December 14 to 21, 2005, the submarine "Saint Petersburg" made its first sea voyage for testing, and its first dive was performed. According to media reports, the submarine was supposed to begin state testing in 2006, but until the first half of 2008 (at least) it underwent factory sea trials with the refinement of the submarine's units and systems. As of 2009, the submarine is planned to be accepted by the Navy for 2009-2010. In February 2010, it was announced that the lead boat "Saint Petersburg" would be accepted for trial operation by the Navy before the summer, and on 22.04.2010, the Navy signed the acceptance certificate for the lead boat B-585 "Saint Petersburg", and the boat was accepted for trial operation. On 8 May 2010, the Russian Navy flag was raised on the submarine B-585 "Saint Petersburg".



Submarine B-586 "Kronshtadt" project 677D on the Neva in St. Petersburg during the naval parade on Navy Day, 2019 (photo - Said Aminov, <https://t.me/vestnikpvo>).

Author: [DIMMI](#)

Created: 02,07,2009 01:16:11

Comments: [74](#)

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pr.667BDRM Dolphin - DELTA-IV

DATA FOR 2024 (standard update)

project 667BDRM "Dolphin" - DELTA-IV

K-51 "Verkhoturys"
K-84 "Ekaterinburg"
K-64 "Podmoskovie"
K-114 "Tula"
K-117 "Bryansk"
K-18 "Karelia"
K-407 "Novomoskovsk"

★★★★



Nuclear-powered ballistic missile submarine (SSBN) / strategic missile submarine (SSBN). The SSBN project was developed by the Rubin Central Design Bureau for Marine Engineering (Leningrad), Chief Designer - [S.N. Kovalev](#). The USSR Council of Ministers decree on the development of SSBNs with the D-9RM intercontinental missile system was issued on September 10, 1975. The boat was developed as a more advanced modification of the Project 667BDR SSBN. The project used new developments in the field of armament, control and detection systems, and means of reducing hydroacoustic noise. Various damping, vibration-insulating, and sound-absorbing devices were widely used. The results of noise emission studies of various hull structures were tested. All changes ensured a reduction in the detection range of the Project 667BDRM SSBN in the Arctic regions by American Los Angeles-class submarines to 20 nautical miles.

Probably in the second half of 1980, the technical design of the SSBN was prepared. Construction of the series of boats began in Severodvinsk at PO Sevmash with the lead boat K-51 (plant no. 379), which was laid down on February 23, 1981, launched on March 7, 1984 and accepted by the Fleet on December 29, 1984.

A total of 7 SSBNs of the project were built from 1984 to 1990.



Submerging SSBN pr.667BDRM "Delfin" - DELTA-IV

Author: [DIMMI](#)

Created: 16.11.2012 23:59:26

Comments: [35](#)[READ THE FULL ARTICLE >](#)

pr.641 FOXTROT

DATA FOR 2024 (standard replenishment)
pr.641 FOXTROT

★★★★



Large (ocean-going) diesel-electric submarine ("B"). The boat was developed by TsKB-18 (later renamed TsKBMT "Rubin", chief designer - S.A. Egorov, later Z.A. Deribin) to replace the large submarines of Project 611. The decision of the Navy and the Navy to develop a technical design was made in October 1954. The technical design of the submarine of Project 641 was presented by TsKB-18 in January 1955 (approved in July 1955 by a decree of the USSR Council of Ministers). Full-scale mock-ups of the submarine compartments were manufactured in July 1955. In August 1955, a decision was made to change the diving depth of the submarine, which entailed a change in the design and a significant upgrade of the equipment. The lead submarine B-94 was laid down at Plant No. 196 (Sudomek, Leningrad) on October 3, 1957. She was launched on December 28, 1957 at 64% readiness, completed trials on December 15, 1958, and entered service with the Navy on December 25, 1958. A total of 75 submarines of various modifications of Project 641 were built (initially, it was planned to build 160 units). Plant No. 196 (Sudomek, Leningrad) built 46 submarines between 1957 and 1967. The Novo-Admiralteysky Plant (Leningrad) built 16 submarines between 1966 and 1971. The Leningrad Admiralty Association built 13 submarines from 1971 to 1983. Some of the submarines were built for export according to Project I-641. By default, the data is for submarines of Project 641.

Submarine U01 "Zaporizhzhya" of the Ukrainian Navy after leaving Shipyard No. 13, Sevastopol, 20.03.2012 (<http://vmsu.info>).Author: [DIMMI](#)

Created: 31.05.2009 20:59:06

Comments: [38](#)[READ THE FULL ARTICLE >](#)

pr.611 - ZULU

DATA FOR 2023 (standard update)

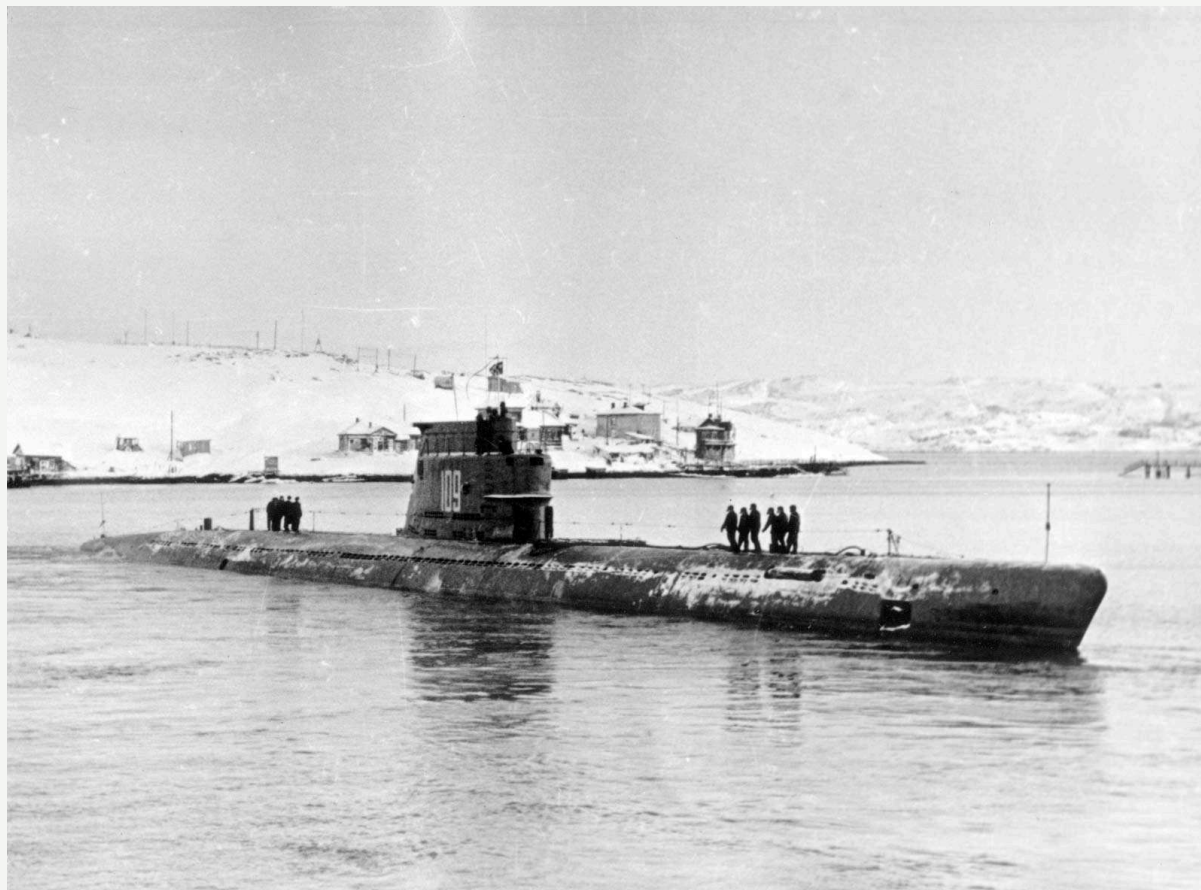
Project 611 ZULU-I (basic project with artillery armament)

Project 611 ZULU-II (basic design without artillery armament)

Project 611 ZULU-III (basic design with new sonar)

★★★★

Large diesel-electric submarine ("B"). The boat was developed by TsKB-18 (later renamed TsKBMT "Rubin"), chief designer - S.A. Egorov. Preliminary development began in 1943. The draft design was developed in October 1947 and approved by the decree of the USSR Council of Ministers of August 2, 1948. Development of the technical design began in April 1948 using technologies and technical solutions of the German submarine of the XXI series (completed in December 1948). The technical design was approved and a decision was made to build the Project 611 submarine by the Resolution of the USSR Council of Ministers dated January 28, 1949. A full-scale wooden model was built in August 1949. Production of the submarine was launched at Plant No. 196 (Sudomekh, Leningrad, 8 submarines were built between 1951 and 1955) and at Plant No. 402 (Molotovsk, later Severodvinsk, 1954-1958, 18 submarines of all modifications). The lead boat of the project, B-61, was laid down at Plant No. 196 on January 10, 1951. Testing of B-61 was completed on December 31, 1953. For completion, the submarine B-61 was transferred to Plant No. 890 (Tallinn), where it was transferred under its own power in difficult ice conditions. A total of 26 submarines of Project 611 of all modifications were built in the period 1951-1958. By default, the data is Project 611.



Submarine pr.611 ZULU-II, Northern Fleet (<http://militaryphotos.net>). According to the article by A.V. Burilichev "Deep-sea technical means" ([source](#)), the photo shows the submarine carrier of the underwater vehicles " [Arkhipelag](#) " and " [Seligier](#) " - BS-69.

Author: [DIMMI](#)

Created: 22.05.2009 19:01:43

Comments: [15](#)[READ THE FULL ARTICLE »](#)D-11 / R-31 / 3M-17 - SS-N-17 SNIPE

DATA AS OF 2024 (standard replenishment)

D-11 complex, R-31 / 3M-17 / RSM-45 missile - SS-N-17 mod.1-2 SNIPE

★★★★ Submarine-launched ballistic missile (SLBM). Developed by TsKB-7 / KB Arsenal (Leningrad), Chief Designer - P.A. Tyurin (according to the Resolution of the USSR Council of Ministers No. 374-117 of June 10, 1971). After gaining experience in working on the [8K98](#) solid-fuel ICBM, KB Arsenal came up with a proposal to develop a solid-fuel SLBM for the modernization program to replace the [R-27 missiles of the D-5 complex](#) with the Project 667A SSBNs. The design was based on the developments in the R-27MT / 3M-70 research and development work on the D-5MT complex (the TsKB-7 project is a competitor to the D-5M complex project of SKB-385, Miass). The start of R&D on developing modernization options for Project 667A was in 1965. It was planned to re-equip Project 667A SSBNs with modernized missiles during major repairs of the submarines. The USSR Council of Ministers issued a resolution on the development of a preliminary design for the D-11 complex in June 1969. In February 1971, the Scientific and Technical Council of the Ministry of General Machine-Building and the Ministry of Shipbuilding and Industry decided to select the D-11 complex with the R-31 / 3M-17 solid-fuel missile for development and testing. It was envisaged to increase the firing range, combat readiness and improve the operating conditions of the new missile complex with a warranty period of 7 years for placement on SSBNs and 10 years for storage at the base. The Resolution of the Council of Ministers of the USSR on the creation of the D-11 complex for the rearmament of the SSBNs of Project 667A No. 374-117 was issued on June 10, 1971. The Resolution appointed - Chief Designer for the complex as a whole - P.A. Tyurin, Deputies - for the missile - Yu.F. Valov, for propulsion systems - A.F. Madison, for control systems and telemetry - V.G. Volkov, for ground and launch equipment, missile shock absorption system - V.S. Petrikevich, for drop tests and tests at the Kapustin Yar test site - A.A. Zapolsky. The Resolution was further developed by the Order of the Ministry of General Machine Building (MGM) No. 192 of June 30, 1971. The technical specifications for the development of the complex and the missile were issued by the customer on August 10, 1971. The Resolution of the Commission of the Presidium of the Council of Ministers of the USSR on Military- Industrial Issues of November 12, 1971 No. 263 approved the procedure and terms for the development of the complex, as well as the composition of the executors, and the Resolution of October 24, 1973 No. 251 appointed the State Commission. The Government Resolution of February 13, 1973 No. 108-39 clarified the composition of the executors and the terms for the development of the complex. During the development of the D-11 complex, the following cooperation of enterprises was established: - complex, rocket, first-stage solid-propellant rocket motor and the BB final booster unit - TsKB-7 / KB "Arsenal" (Leningrad), chief designer - P.A. Tyurin - on-board and ship control systems - Research Institute of Automatics (N.A. Semikhatov) - gyroscopic instruments - Research Institute of Command Instruments (V.P. Arefyev) ★★

- shipborne digital computing system - TsNII "Agat" (Ya.A. Khetagurov)
- 2nd stage solid propellant rocket motor and PAD - Perm Design Bureau of Mechanical Engineering / SKB-172 (now NPO Iskra), chief designer - L.N. Lavrov
- solid propellant charges of sustainer stages - NPO Altai (Biysk)
- warhead - NII-1011 (now VNIITF), leading designer - I.V. Prosvetov
- ground equipment and loading facilities - Design Bureau of Transport Mechanical Engineering (V.N. Soloviev)
- shipborne service systems and placement of the complex on the SSBN of Project 667AM - LPMB "Rubin", chief designer of Project 667AM O.Ya. Margolin



R-31/3M-17/SS-N-17 SNIPE missile in the assembly shop

Author: [DIMMI](#)

Created: 21.10.2010 21:32:03

Comments: [60](#)[READ THE FULL ARTICLE >](#)

[pr.613 WHISKEY - chronology, export, sources](#)

DATA FOR 2023 (standard update)

[pr.613 WHISKEY - chronology, export, sources](#)

★★★★

Submarine pr.613 WHISKEY-III on the Neva, Leningrad, 1968 (<http://community.webshots.com/>)**Status :** USSR / Russia - 215 units built, served in service.

Production:

- Plant No. 444 (Black Sea Shipyard, Nikolaev) - 1950-1957 - a total of 72 units were built (lead S-61).
- Plant No. 112 (Krasnoye Sormovo plant, Gorky) - 1950-1956 - a total of 113 units were built.
- Plant No. 189 (Baltic Shipyard, Leningrad) - 1953-1958 - a total of 19 units were built.
- Plant No. 199 (Lenin Komsomol Plant, Komsomolsk-on-Amur) - 1954-1957 - a total of 11 units were built.

Author: [DIMMI](#)

Created: 07.09.2009 22:52:00

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[3K-10 / S-10 Granat - SS-N-21 SAMPSON](#)

DATA FOR 2022 (standard update)

Complex 3K-10 / S-10 "Granat", missile KS-122 / 3M-10 - SS-N-21 SAMPSON

★★★★

Long-range sea-launched cruise missile. Full-scale development of a sea-launched system with the KS-122 missile in response to the creation of the SLCM and GLCM cruise missiles in the USA was started by the Novator Design Bureau (Sverdlovsk) by the decision of the Military-Industrial Complex under the USSR Council of Ministers No. 282 of June 19, 1975. Chief Designer - L.V. Lyulyev. According to unofficial memoirs (source - Shirokorad), preliminary development of the long-range subsonic cruise missile project was carried out at the Novator Design Bureau on its own initiative in the late 1960s - early 1970s. There is also a legend about one of the SLCM test samples accidentally ending up in Cuba that ended up in the Novator Design Bureau.

As a result of the research work "Echo" conducted by GosNIIAS in the late 1960s, it was established that it was possible to overcome the enemy's air defense and missile defense systems with subsonic cruise missiles in case of their massive use, as well as using the "counter detonation" technique to

destroy the enemy's air defense and missile defense systems with nuclear explosions in order to clear a corridor for other attacking cruise missiles.

The development of a torpedo-missile complex with a KS-122 cruise missile launched from 533-mm torpedo tubes was started by the Malakhit Design Bureau (chief designer - L.A. Podvyaznikov) by order of the Ministry of Shipbuilding Industry dated December 9, 1975. The torpedo-missile complex was intended to solve operational-strategic tasks in the continental theater of military operations by destroying administrative-political and large military-industrial centers with pre-determined coordinates. The complex ensured combat use at any time of day or year, in any weather conditions, in mountainous and difficult terrain.

The official design of systems with long-range cruise missiles of air, land and sea basing was started in the USSR by the Resolution of the Council of Ministers of the USSR of December 9, 1976. Later, on the basis of the S-10 "Granat" system with the KS-122 missile, its land-based version was created - RK-55 "Relief". On May 26, 1978, the Resolution of the Council of Ministers of the USSR assigned the reworking of the project of the submarine project 971 for the placement of the CRBD "Granat".



The analogue of the 3M-10 Granat missile is the 3M-54E missile (from the Diletant2010 archive, <http://militaryrussia.ru/forum/>).

Author: DIMMI

Created: 21.10.2012 22:13:44

Comments: 52

[READ THE FULL ARTICLE >](#)

Meteorite, missile 3M25 / X-80 - SS-NX-24 SCORPION / AS-X-19 KOALA / SSC-X-5

DATA FOR 2013 (standard update)

P-750 / 3K25 "Meteorit-M" complex, 3M25 "Thunder" missile - SS-NX-24 SCORPION

Meteorit-A complex, 3M25A "Thunder" missile / X-80 / product 255 - AS-X-19 KOALA

Meteorit-N complex, 3M25N "Thunder" missile - SSC-X-5 SCORPION

★★★★

Long-range cruise missile. Developed by OKB-52 (NPO Mashinostroyeniya, Reutov) under General Designer V.N. Chelomey. Preliminary development of the design of a universal supersonic cruise missile in terms of carriers was carried out as part of the Meteorit R&D project since 1973 ([source](#)). The USSR Council of Ministers issued a decree on the creation of sea-, air- and land-based cruise missiles (including the Meteorit universal strategic cruise missile) on December 9, 1976. The missile was designed in three basing variants: sea-based (for Project 949M SSGNs), air-based (for the Tu-95 and possibly the Tu-160), and land-based (probably with a self-propelled launcher). The preliminary design of the sea-based complex was approved in December 1978, and the air-based design in January 1979. The development of liquid engines for the booster stage was conducted by the Chemical Automation Design Bureau (KBKhA) from 1977 to 1988. The missiles were manufactured at the Khrunichev Plant. Preliminary tests of the missile for wing extension and cruise engine launch were conducted at the NPO Mashinostroyeniya in Reutovo.

The first launch of the sea-based version of the Meteorit cruise missile from a ground test site at the Kapustin Yar test site took place on May 20, 1980. The missile failed to exit the launcher container and partially destroyed it. The next three launches were also unsuccessful. In the fifth launch on December 16, 1981, the missile successfully launched and flew about 50 km. According to unconfirmed data, in addition to launches from the ground test site, tests were also conducted using the PSK submersible test site in the Black Sea (probably the Balaklava test site). In total, more than 30 3M25 missile launches were conducted from the test sites in 1982-1987. Flight tests of the missile from the K-420 submarine, [project 667M](#), consisted of three launches - on 27.12.1983, and one launch each in 1984 (06.11.1984) and 1986.

During the tests, the greatest problems were caused by the refinement of the correction systems based on the radio-contrast radar image of the terrain, failures of the plasma formation system of the cruise missile protection system from radar detection, and, in fact, the cruise missile launch process itself - since it was not possible to implement a supersonic launch of the missile's cruise engine, as envisaged by the terms of reference for the missile's creation.

After the missile development program was terminated (1993), about 15 ready-made 3M25 missiles remained at the Khrunichev plant.

Special thanks to the user "Sluchayny" from the forum <http://militaryrussia.ru> for help in working on the material.



Aircraft missile 3M25A "Meteorit-A" in the launch configuration (<http://testpilot.ru>)

Author: [DIMMI](#)

Created: 11.10.2010 22:59:35

Comments: [130](#)

[READ THE FULL ARTICLE >](#)

pr.1164 Atlant - SLAVA

DATA FOR 2023 (in progress)

Project 1164 "Atlant" - SLAVA

"Moscow" ("Glory")

"Marshal Ustinov" ("Admiral of the Fleet Lobov")

"Varyag" ("Chervona Ukraine")

"Ukraine"

★★★



Missile cruiser. Developed by the Severnoye Design Bureau (Leningrad), chief designer - A.K. Perkov (later - V.I. Mutikhin). The ship is designed to strike enemy naval groups, including aircraft carriers, as well as to provide zonal air defense for fleet formations and naval bases and strikes against enemy ground infrastructure. A series of 10 cruisers of the project were planned for construction in the 1980s.

The preliminary design of the cruiser was adopted on April 13, 1973. The design was based on Project 1134B with a complete update of the armament composition. The cruiser was supposed to use a new missile system, a new zonal air defense missile system, and a new artillery mount. This required a complete redesign of the layout of the superstructures and the hull of the ship. The final appearance of the cruiser was formed in Technical Project 1164. The development of the technical project was completed on August 21, 1974. Construction of the ship could have begun in December 1974 at the Nikolaev Shipyard named after 61 Communards after the vacancy of the slipway after the launch of the 5th ship of Project 1134B "Petrovsk", but the armament systems were not ready for the project. In this regard, the laying of the lead ship was postponed to 1976 and took place only on October 4, 1976 (cruiser "Slava", factory No. 2008). The lead cruiser was launched on July 27, 1979 and accepted by the Fleet on December 28, 1982.



Missile cruiser "Moskva" project 1164, Black Sea, 2000s

Author: [DIMMI](#)

Created: 06.02.2022 22:58:35

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590

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